

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ANDREW J. SANDERSON
and WAYNE EDWARDS

Appeal No. 2003-1912
Application No. 09/436,440

ON BRIEF

MAILED

SEP 29 2003

PAT. & T.M. OFFICE
BOARD OF PATENT APPEALS
AND INTERFERENCES

Before CAROFF, KRATZ, and JEFFREY SMITH, Administrative Patent Judges.

CAROFF, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-11 and 31-41. Subsequent to the final rejection, appellants cancelled claims 31-32. Accordingly, the claims now before us for consideration on appeal are claims 1-11 and 33-41, all the claims remaining in appellants' involved application.

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The claims relate to a thermoplastic elastomer having A blocks and B blocks; wherein linking groups are present and are derived from at least one diisocyanate for end-capping the blocks, and at least one difunctional oligomer having two functional groups which are reactive with the isocyanate moieties of the diisocyanate.

Claim 1, which is one of two independent claims, is representative of the subject matter encompassed by the claims on appeal:

1. A thermoplastic elastomer having A blocks and B blocks and being present in a solid state suitable for use as a binder for at least one of a propellant, explosive, and gasifier, the thermoplastic elastomer being formulated from a composition comprising, as constituents:

A blocks terminated with isocyanate-reactive groups derived from monomers comprising at least one member selected from the group consisting of oxetane derivatives and tetrahydrofuran derivatives, the A blocks being crystalline below about 60°C;

B blocks terminated with isocyanate-reactive groups derived from monomers comprising at least one member selected from the group consisting of oxetane and derivatives thereof, tetrahydrofuran and derivatives thereof, and oxirane and derivatives thereof, the B blocks being amorphous above about -20°C; and

linking groups derived from at least one diisocyanate for end-capping the A blocks and the B blocks and at least one difunctional oligomer comprising two functional groups which are reactive with isocyanate moieties of the diisocyanate.

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The sole prior art reference relied upon by the examiner on appeal is:

Wardle

4,806,613

Feb. 21, 1989

The following rejections are before us for consideration:

I. Claims 1-11 stand rejected under 35 U.S.C. § 112, second paragraph, for indefiniteness.

II. Claims 1-11 and 33-41 stand rejected under the judicially created obviousness-type double patenting doctrine as being obvious from claims 1-13 of copending application 09/436,360 (hereafter application '360).

III. Claims 1-4, 7-11, 34-36, and 39-40 stand rejected for obviousness under 35 U.S.C. § 103 in view of Wardle.

Based on the record before us, we agree with appellants, essentially for the reasons given in their brief and reply brief, that there is an insufficient evidentiary basis to support any of the rejections before us. Accordingly, we shall reverse each of the rejections applied by the examiner.

As for the rejection under 35 U.S.C. § 112, the examiner asserts that it is unclear if the A block and B block constituents of the claims are mutually exclusive since, under certain temperature conditions, the claims allegedly allow for the A blocks and B blocks to be identical. On the other hand,

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appellants would have us read the recited temperature limitations in a way which would preclude that possibility.

In our view, the appellants' construction represents a more reasonable interpretation of the claims for two reasons. First of all, the A and B blocks are set out as two distinct constituents and, therefore, presumably represent distinct chemical entities. Second, and more significantly, appellants' claim construction is consistent with their specification, whereas the examiner's is not. Specifically, the specification (p. 6, ll. 15-18) indicates that the B blocks are amorphous "at temperatures down to about -20°C"; whereas the A blocks are crystalline "at temperatures below about 60°C".

Thus, according to the specification, B blocks must be amorphous at all temperatures above about -20°C; whereas A blocks must be crystalline at all temperatures below about 60°C. Therefore, to be consistent with the specification, the temperature limitations recited in the claims must be read as requiring that the A and B blocks be distinct in terms of their mutually exclusive transition temperatures.

Turning to the double patenting rejection, we find that the examiner has failed to provide any evidentiary material or a sound technical basis to support a conclusion that the use of a

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difunctional oligomer would have been obvious, within the purview of 35 U.S.C. § 103, from the mere recitation of a difunctional "linking compound" in the claims of copending application '360. There is no indication in any of the '360 claims that the linking compound should be an oligomer. The mere fact that the term "linking compound" broadly encompasses oligomers (as well as non-oligomers) does not provide a sufficient basis for a finding of obviousness. Accordingly, we are compelled to reverse the obviousness-type double patenting rejection.

In a similar vein, the rejection under 35 U.S.C. § 103, based on the Wardle reference, cannot be sustained because the examiner has failed to provide sufficient evidentiary material or a sound technical basis to support his conclusion that the use of a difunctional oligomer would have been obvious from the mere disclosure of simple diols in Wardle, or from the generic disclosure that "there is no limit to the size of the linking compound". We find no teaching or suggestion in Wardle that the linking compound be an oligomer.

In fact, Wardle (col. 9, ll. 13-17) appears to prefer that the linking compound "be of relatively low molecular weight so as to minimally influence the characteristics of the block polymer". In contrast, appellants appear to have chosen to use difunctional

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oligomers specifically for the purpose of influencing a particular characteristic (softening temperature) of the block polymer. In this regard, we refer to p. 3, ll. 22-31, and p. 5, ll. 13-15, of appellants' specification.

For the foregoing reasons, the decision of the examiner is reversed.

REVERSED

Marc L. Caroff

MARC L. CAROFF //

Administrative Patent Judge

Peter F. Kueh

PETER F. KRATZ
Administrative Patent Judge

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May 7 1938

JEFFREY T. SMITH
Administrative Patent Judge

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